

Serial No.: 10/036,485

IN THE CLAIMS:

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1. (Currently Amended) A plasma-processing method comprising:

mounting an object to be processed on a mounting unit located within a process chamber;

31 generating a plasma by feeding a plasma-generating gas containing a first amount of sulfur hexafluoride and a second amount of helium into the process chamber and by causing a plasma discharge, the plasma-generating gas containing more helium than sulfur hexafluoride;

etching an object with the plasma, thereby causing at least one reaction product; and

removing said at least one reaction product from a surface of ~~such etched~~ the object being etched by blowing the plasma-generating gas onto the object simultaneously while etching the object.

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2. (Currently Amended) The plasma-processing method of claim 1, wherein ~~said~~ generating the plasma further comprises:

applying a high-frequency voltage to the mounting unit; and  
supplying the plasma-generating gas ~~from~~ through at least one ejection hole in a member located opposite to the mounting unit.

3. (Currently Amended) The plasma-processing method of claim 1,

wherein an object to be mounted is a wafer having first and second sides, and the second side includes a damaged-layer damaged by mechanical polishing or grinding, and

~~said etching an object and said removing said at least one reaction product~~ comprises removing ~~occur simultaneously thereby causing removal of the damaged-layer of such a~~ the wafer.

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4. (Currently Amended) The plasma-processing method of claim 3,

wherein:

a wafer to be mounted includes a protective sheet affixed to the first side thereof, and

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amp.* ~~said etching~~ an object further comprises etching ~~such a~~ wafer with the protective sheet mounted to the mounting unit.

5. (Currently Amended) The plasma-processing method of claim 4, wherein ~~said etching~~ a wafer further comprises etching ~~such a~~ wafer while cooling the mounting unit.

6. (Currently Amended) The plasma-processing method of claim 1, wherein the first amount of helium in the plasma-generating gas ~~contains~~ is not greater than ten times the second amount of sulfur hexafluoride and helium in a concentration ranging from 1:1 to 1:10 in the plasma-generating gas.

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7. (Currently Amended) The plasma-processing method of claim 1, wherein said removing said at least one reaction product comprises causing the helium ~~contained~~ in the plasma-generating gas to remove said at least one reaction product from a surface of such the etched object.

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